This document provides pertinent information concerning the reissuance of the VPDES Permit listed below. This permit is being processed as a minor, industrial permit. The discharge results from the operation of a 12 MGD production water treatment plant. This permit action consists of updating the proposed effluent limits to reflect the current Virginia Water Quality Standards (effective 6 January 2011) and updating permit language as appropriate. The effluent limitations and special conditions contained within this permit will maintain the Water Quality Standards of 9VAC25-260 et seq.

1.	Facility Name and Mailing Address:	City of Manassas Water Treatment Plant (WTP) 8500 Public Works Drive Manassas, VA 20110	SIC Code:	4941 WTP
	Facility Location:	14329 Glenkirk Road Nokesville, VA 20181	County:	Prince William
	Facility Contact Name:	Tony H. Dawood, P.E.	Telephone Number:	703-257-8381
	Facility Contact Title:	Acting Director of Utilities		
	Facility Email Address:	Tdawood@ci.manassas.va.us		
2.	Permit No.:	VA0050181	Expiration Date:	6 April 2016
	Other VPDES Permits:	Not Applicable		
	Other Permits:	Registration Number 73229 – DEQ-NRO Air Permit Registration ID Number 300-4990 – DEQ-NRO Petroleum tank registration Public Water Supply – PWSID 6685100 (Virginia Department of Health)		
	E2/E3/E4 Status:	Not Applicable		
3.	Owner Name:	City of Manassas		
	Owner Contact:	Tony H. Dawood, P.E.	Telephone Number:	703-257-8381
	Owner Title:	Acting Director of Utilities		
	Owner Email Address:	Tdawood@ci.manassas.va.us		
4.	Application Complete Date:	7 October 2015		
	Permit Drafted By:	Douglas Frasier	Date Drafted:	31 December 2015
	Draft Permit Reviewed By:	Anna Westernik	Date Reviewed:	6 January 2016
	Draft Permit Reviewed By:	Alison Thompson	Date Reviewed:	17 February 2016
	Public Comment Period:	Start Date: 24 March 2016	End Date:	25 April 2016
5.	Receiving Waters Information:	See **Attachment 1** for the Flow Frequency Determination.		
	Receiving Stream Name:	Broad Run	Stream Code:	1aBRU
	Drainage Area at Outfall:	60 square miles	River Mile:	16.0
	Stream Basin:	Potomac River	Subbasin:	Potomac River
	Section:	7a	Stream Class:	III
	Special Standards:	g	Waterbody ID:	VAN-A19R
	7Q10 Low Flow:	0.0 MGD	7Q10 High Flow:	0.0 MGD
	1Q10 Low Flow:	0.0 MGD	1Q10 High Flow:	0.0 MGD
	30Q10 Low Flow:	0.0 MGD	30Q10 High Flow:	0.0 MGD
	Harmonic Mean Flow:	0.0 MGD	30Q5 Flow:	0.0 MGD

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6. Statutory or Regulatory Basis for Special Conditions and Effluent Limitations:

X	State Water Control Law	X	EPA Guidelines
X	Clean Water Act	X	Water Quality Standards
X	VPDES Permit Regulation	X	9VAC25-860 et seq. *General VPDES Permit for Potable Water Treatment Plants*
X	EPA NPDES Regulation		

7. Licensed Operator Requirements: Not Applicable

8. Reliability Class: Not Applicable

9. Facility / Permit Characterization:

	Private	X	Effluent Limited		Possible Interstate Effect
	Federal	X	Water Quality Limited		Compliance Schedule
	State		Whole Effluent Toxicity Program		Interim Limits in Permit
X	Water Treatment Plant		Pretreatment Program		Interim Limits in Other Document
X	eDMR Participant		Total Maximum Daily Load (TMDL)		

10. Wastewater Sources and Treatment Description:

Potable Water Production

The City of Manassas withdraws water from Lake Manassas as the raw water source for the Manassas Water Treatment Plant. The Virginia Department of Health permitted production for the water treatment plant is 12 million gallons per day (MGD). Potable water is provided to residents of the City of Manassas, the City of Manassas Park and western Prince William County.

Raw water is initially treated by the addition of ferric sulfate and sodium hypochlorite. The water is then split between the East/West side and pulsators. The treatment units on the East and West sides are conventional water treatment units with separate flocculation and sedimentation basins followed by filtration. There are two flocculation and sedimentation basins and four filters on each side. The pulsators are upflow clarifiers followed by filtration; there are four filters for the pulsators. Following filtration, the water is chlorinated for primary disinfection and stored in the clearwell prior to distribution. The water is then treated with caustic soda, fluoride and sodium hexametaphosphate prior to distribution.

Wastewater Sources and Treatment

Wastewater is generated from the backwashing of filters and pulsators blowdown; which flow directly to the surge tank for sedimentation. Solids from sedimentation basin cleaning are first emptied into the thickener and then the clarified water is discharged to the surge tank. Discharge from the surge tank is conducted manually with the clarified water being mixed with sulfur dioxide for dechlorination prior to discharge via Outfall 001. Discharges at this outfall are intermittent; occurring three times a week for approximately four hours.

During the last reissuance, Outfalls 002 and 902 were added and assigned to the outlet of the onsite stormwater retention pond. Refer to **Attachment 2** for an aerial view of the facility. Outfall 002 was designated as industrial wastewater comingled with stormwater. The basis for this was there are industrial processes located within the drainage area of this outfall and should there be a facility/operational failure within the drainage area, industrial process water could potentially flow to the retention pond. Subsequently, Outfall 902 was designated as a discrete stormwater discharge; a result of a significant rain event. Both outfalls are sited at the same location; differentiated by contents present within the discharge.

Based on the permittee's determination, limitations were imposed if a discharge occurred and industrial process water was deemed present (Outfall 002); otherwise, monitoring and visual inspections were imposed if the discharge consisted of only stormwater (Outfall 902).

It should be noted that this retention pond has not discharged during the previous permit terms; generally due to its proximity to the facility, construction and relative size.

See **Attachment 3** for the NPDES Permit Rating Worksheet.

See **Attachment 4** for a facility schematic/diagram.

TABLE 1
OUTFALL DESCRIPTION

Number	Discharge Sources	Treatment	Maximum Flow	Latitude / Longitude
001	Industrial Wastewater	See Section 10	1.0 MGD	38° 45′ 44″ / 77° 37′ 16″
002	Comingled	Sedimentation	No discharge to date	38° 45′ 42″ / 77° 37′ 13″
902	Stormwater	Sedimentation	No discharge to date	38° 45′ 42″ / 77° 37′ 13″
See **Attachment 5** for the Gainesville topographic map.				

11. Solids Treatment and Disposal Methods:

The industrial solids generated at this water treatment plant are transported to the Upper Occoquan Service Authority (VA0024988) for treatment and final disposal.

12. Permitted Discharges Located Within Waterbody VAN-A19R:

TABLE 2
PERMITTED DISCHARGES

Permit Number	Facility Name	Type	Receiving Stream
VA0085901	IBM Corporation	Industrial Discharge Individual Permits	Cannon Branch Cannon Branch, UT
VA0050181	Prince William County – Balls Ford Yard Waste		Broad Run, UT
VA0020460	Vint Hill Farms Station WWTP	Municipal Discharge Individual Permit	Kettle Run
VAG110111	Aggregate Industries MAR – Manassas	Concrete Products General Permits	Broad Run, UT
VAG110313	Hanson Pipe and Precast Inc.		
VAR052068	Belvoir Station LLC	Stormwater Industrial General Permits	Piney Branch, UT
VAR051949	Chemung Contracting Corporation - Gainesville		Broad Run, UT
VAR051043	Lockheed Martin - Manassas		Canon Branch, UT
VAR051094	Norfolk Southern Railway - Manassas Yard		Cannon Branch, UT
VAR050908	Branscome Paving Company - Manassas		Dawkins Branch, UT
VAR051992	Virginia Scrap Corp		Rocky Branch, UT
VAR051476	Old Dominion Freight Line Incorporated - Bristow		Rocky Branch, UT
VAR051117	US Foods Incorporated		Dawkins Branch, UT
VAR050907	Micron Technology Incorporated		Cannon Branch, UT
VAR052008	Prince William Metal		Dawkins Branch, UT

TABLE 2
(continued)

Permit Number	Facility Name	Type	Receiving Stream
VAR051911	Asphalt Emulsion Inc	Stormwater Industrial General Permits	Cannon Branch
VAR051294	FedEx Freight East Incorporated - Manassas		Cannon Branch, UT
VAR050985	Manassas Regional Airport		Cannon Branch
VAR051043	Lockheed Martin - Manassas		Cannon Branch, UT
VAR051639	Potomac Disposal Services of Virginia, LLC		Broad Run, UT
VAR050901	Superior Paving Corporation - Manassas Plant		Cannon Branch
VAR051298	Vistas at Lake Manassas LLC		North Fork Broad Run
VAR051886	Virginia Railway Express - Broad Run Yard		Broad Run, UT
VAR051033	YRC, Incorporated		Canon Branch, UT
VAR051030	UPS Freight - Bristow		Rocky Branch, UT
VAR050859	Glen Gery Corporation - Capital Plant		Cannon Branch, UT
VAR050985	Manassas Regional Airport		Broad Run
VAR052074	Northern Virginia Material Recovery Facility		Dawkins Branch
VAR051085	Quarles Petroleum - Manassas Bulk Plant		Dawkins Branch, UT
VAG406253	Hallman Gary O. Residence	Small Municipal ≤ 1,000 gpd General Permits	Kettle Run, UT
VAG406271	Judge Megan Residence		Kettle Run, UT
VAG406316	Crayons to Perfume Limited Liability Company		Broad Run, UT
VAG406573	Crouch James and Julia Residence		Broad Run, UT
VAG406348	Ellington Edward Jay and Kathy Residence		Lake Manassas, UT
VAG406473	Gagnon Raymond Residence		Broad Run, UT
VAG406308	Lindholm Allen T. Property		Broad Run, UT
VAG406420	Gaona Veronica Residence		Kettle Run, UT
VAG406526	Mayer Lisa M and Timothy S. Residence		Broad Run, UT
VAG406313	Hall Peter and Jill Residence	Small Municipal ≤ 1,000 gpd General Permits	Kettle Run, UT
VAG406314	Bull Run Mountains Conservancy, Incorporated		Broad Run
VAG406488	Buckland Mill Road Residence		Broad Run, UT
VAG406359	Dunetz Delia Residence		Broad Run, UT
VAG406447	Sandberg Brian Residence		Kettle Run, UT
VAG406155	Siegel Eugene HM 2 LLC Property		North Fork, UT
VAG406004	Letzinger Property LLC Residence		Kettle Run, UT
VAG406040	Wrights Facility		Little Bull Run, UT
VAG406134	Virginia Gateway Plaza Auto		South Run, UT
VAG406292	Glasgow Robert Residence		Kettle Run, UT

TABLE 2
(continued)

Permit Number	Facility Name	Type	Receiving Stream
VAG406548	Haynes and Kuhns Residence	Small Municipal ≤ 1,000 gpd General Permits	North Fork Broad Run, UT
VAG406234	Kuhlberg Jason Residence		Lake Manassas, UT
VAG406053	Elliott David A. Residence		Broad Run, UT
VAG406503	Bashore Stephen Residence		Broad Run, UT
VAG406570	Escalante Ruben Residence		Occoquan River, UT
VAG406260	Gooding Daniel W. Residence		Lake Manassas, UT
VAG406038	Rubb Eric J. Residence		Broad Run, UT
VAG406390	Blaser Tom and Kendal Residence		Broad Run, UT
VAG406403	Rumpf Clinton and Autumn Residence		Broad Run, UT
VAG406097	Hopkins Harvey J. Residence		Lake Manassas, UT
VAG406046	Miller Lana and Butterfield Bryan Residence		Kettle Run, UT
VAG406221	7 Eleven 20412		Chestnut Lick, UT
VAG406231	Franco Carlos Residence		Broad Run, UT
VAG406248	Sebastian Jr Joseph A. Residence		Rocky Branch, UT
VAG406505	Hastings Quentin Residence		Kettle Run, UT
VAG406228	Lancaster John M. W. Residence		Kettle Run, UT
VAG406233	PWCPS - Transportation Area		Kettle Run, UT
VAG406317	Miles Jay Residence		Kettle Run, UT
VAG406071	8033 Devlin LLC Residence		Broad Run, UT
VAG406351	Fischer Dale - Residence		Broad Run, UT
VAG406574	Hoke Residence		South Run, UT
VAG406476	Buckland Village		Broad Run, UT
VAG406299	Morrow Susan Residence		Broad Run, UT
VAG406421	Devine Margaret Residence		Broad Run, UT
VAG406079	Siegel Eugene Residence		Broad Run, UT
VAG406225	Mulatz Mary Residence		Broad Run, UT
VAG840092	Vulcan Construction Materials	Non Metallic Mineral Mining General Permits	Cannon Branch, UT Flat Branch, UT
VAG840075	Glen Gery Corporation		Cannon Branch, UT
VAG250138	44610 Guilford Drive, Raging Wire Data Center	Cooling Water General Permit	Beaverdam Run
VAG750234	Peruvian Motors Incorporated	Vehicle Wash General Permit	Cannon Branch, UT
VAG750237	F. H. Furr Plumbing Heating & Air Conditioning		Broad Run, UT

13. Material Storage:

TABLE 3 MATERIAL STORAGE		
Materials Description	Onsite Handling/Storage	Spill/Stormwater Prevention Measures Best Management Practices
Diesel Fuel	5,000 gallon tank	On concrete, double-walled
Ammonia	8,000 gallon tank	Bermed concrete pad
Hypofluosilicic acid	6,000 gallon tank	
Sodium hypochlorite	10,000 gallon tank	
Phosphate	50 pound bags	Under roof; cellophane wrapped on pallets
Polymer	50 pound bags	
Earthtec	275 gallon totes	Under roof; storm drain covered while unloading
Carbon	200,000 dry tons in silo	Temporary storm drain cover
Sodium hypochlorite	Loading/unloading ports	Concrete spill basin located below the fill ports
Ferric sulfate		
Caustic soda		
Sodium permanganate		
Polyaluminum chloride		

14. Site Inspection:

A technical inspection was performed by NRO Compliance Staff on 23 June 2009.

Please refer to **Attachment 6** for the inspection summary.

The entire inspection report is located in DEQ's Enterprise Content Management (ECM) System.

15. Receiving Stream Water Quality and Water Quality Standards:

a. Ambient Water Quality Data

This facility discharges to a segment of Broad Run that was not assessed for the Draft 2014 Integrated Report. An assessed segment of Broad Run is located approximately four miles downstream from Outfall 001 and DEQ ambient water quality monitoring station 1aBRU011.48 is located at Sudley Manor Road, approximately 4.3 miles downstream from Outfall 001.

The following is the water quality summary for this segment of Broad Run, as taken from the Draft 2014 Integrated Report:

- Class III, Section 7a, special standards "g";
- DEQ monitoring stations located in this segment of Broad Run: Ambient monitoring station 1aBRU011.48, at Sudley Manor Road;
- *E. coli* monitoring finds a bacteria impairment, resulting in an impaired classification for the recreation use. A bacteria TMDL for the Broad Run watershed has been completed and approved;
- The aquatic life and wildlife uses are considered fully supporting; and
- The fish consumption use was not assessed.

b. 303(d) Listed Stream Segments and Total Maximum Daily Loads (TMDLs)

TABLE 4 DOWNSTREAM 303(d) IMPAIRMENTS AND TMDLs					
Waterbody Name	Impaired Use	Cause	TMDL Completion/Schedule	WLA	Basis for WLA
Impairment Information in the DRAFT 2014 Integrated Report					
Broad Run	Recreation	*E. coli*	Occoquan River Watershed Bacteria TMDL 15 November 2006	None (not expected to discharge pollutant of concern)	---

This facility discharges to Bull Run in the Chesapeake Bay watershed in the Potomac River Basin. The receiving stream has been addressed in the Chesapeake Bay Total Maximum Daily Load (TMDL); approved by the Environmental Protection Agency (EPA) on 29 December 2010. The TMDL addresses dissolved oxygen (D.O.), chlorophyll a and submerged aquatic vegetation (SAV) impairments in the main stem Chesapeake Bay and its tidal tributaries by establishing non-point source load allocations (LAs) and point-source waste load allocations (WLAs) for total nitrogen (TN), total phosphorus (TP) and total suspended solids (TSS) to meet applicable Virginia Water Quality Standards contained within 9VAC25-260-185.

The Chesapeake Bay TDML implementation is currently administered in accordance with the Commonwealth of Virginia's Phase I Watershed Implementation Plan (WIP); approved by EPA on 29 December 2010. The approved WIP recognizes the *General VPDES Watershed Permit Regulation for Total Nitrogen and Total Phosphorus Discharges and Nutrient Trading in the Chesapeake Bay Watershed of Virginia*, 9VAC25-820 et seq., as governing the nutrient allocations for non-significant Chesapeake Bay dischargers. Nutrient WLAs for non-significant industrial facilities were based on estimated TN and TP load levels obtained from Discharge Monitoring Report data and typical effluent concentrations established by Standard Industrial Classification (SIC) codes. The TN and TP wasteload allocations contained within the WIP are considered aggregate allocations.

The planning statement may be found in **Attachment 7**.

c. Receiving Stream Water Quality Criteria

Part IX of 9VAC25-260 (360-550) designates classes and special standards applicable to defined Virginia river basins and sections. The receiving stream, Broad Run, is located within Section 7a of the Potomac River Basin and classified as Class III water.

At all times, Class III waters must achieve a dissolved oxygen (D.O.) of 4.0 mg/L or greater, a daily average D.O. of 5.0 mg/L or greater, a temperature that does not exceed 32° C and maintain a pH of 6.0 – 9.0 standard units (S.U.).

d. Receiving Stream Special Standards

The State Water Control Board's Water Quality Standards, River Basin Section Tables (9VAC25-260-360, 370 and 380) designates the river basins, sections, classes and special standards for surface waters of the Commonwealth of Virginia. The receiving stream, Broad Run, is located within Section 7a of the Potomac River Basin. This section has been designated with a special standard of "g".

Special Standard "g" refers to the Occoquan Watershed policy (9VAC25-410). The regulation sets stringent treatment and discharge requirements in order to improve and protect water quality, particularly since the waters are an important water supply for Northern Virginia. The regulation generally prohibits new sewage treatment plants and only allows minor industrial discharges.

This policy is not applicable to this facility as the limitations set forth within the Policy pertain to wastewater treatment plant effluent quality.

e. Threatened or Endangered Species

The Virginia DGIF Fish and Wildlife Information System Database was searched on 8 October 2015 for records to determine if there are threatened or endangered species in the vicinity of the discharge. The following threatened or endangered species were identified within a three (3) mile radius of the discharge: Atlantic Sturgeon (*Acipenser oxyrinchus*); dwarf Wedgemussel (*Alasmidonta heterodon*); Northern long-eared bat (*Myotis septentrionalis*); brook Floater (*Alasmidonta varicose*); wood Turtle (*Glyptemys insculpta*); peregrine Falcon (*Falco peregrinus*); upland Sandpiper (*Bartramia longicauda*); loggerhead Shrike (*Lanius ludovicianus*); Henslow's Sparrow (*Ammodramus henslowii*); Appalachian grizzled Skipper (*Pyrgus wyandot*); green Floater (*Lasmigona subviridis*); and migrant loggerhead Shrike (*Lanius ludovicianus migrans*). The limits proposed within this draft permit are protective of the Virginia Water Quality Standards and protect the threatened and endangered species found near the discharge.

In addition, the Virginia Department of Conservation and Recreation; the Virginia Department of Game and Inland Fisheries; and the United States Fish and Wildlife Service were coordinated during this reissuance per the procedures as set forth in the 2007 Memorandum of Understanding (MOU) concerning *Threatened and Endangered Species Screening for VPDES Permits*. The purpose of this coordination is to obtain input from other agencies during the permitting process to ascertain potential adverse impacts to threatened and endangered species and/or their habitats.

Any comments from these agencies are located in Section 27 of this Fact Sheet.

16. Antidegradation (9VAC25-260-30):

All state surface waters are provided one of three levels of antidegradation protection. For Tier 1 or existing use protection, existing uses of the water body and the water quality to protect these uses must be maintained. Tier 2 water bodies have water quality that is better than the water quality standards. Significant lowering of the water quality of Tier 2 waters is not allowed without an evaluation of the economic and social impacts. Tier 3 water bodies are exceptional waters and are so designated by regulatory amendment. The antidegradation policy prohibits new or expanded discharges into exceptional waters.

The receiving stream has been classified as Tier 1 based on the fact that the critical receiving stream flows have been determined to be 0.0 MGD (Section 5/**Attachment 1**). It is staff's best professional judgment that such streams are Tier 1 since the limits and monitoring requirements are set to maintain the Water Quality Standards. The proposed permit limits and monitoring requirements have been established by determining wasteload allocations which will result in attaining and/or maintaining all water quality criteria applicable to the receiving stream, including narrative criteria. These wasteload allocations will provide for the protection and maintenance of all existing uses.

17. Effluent Screening, Wasteload Allocation and Effluent Limitation Development:

To determine water quality-based effluent limitations for a discharge, the suitability of data must first be determined. Data is suitable for analysis if one or more representative data points are equal to or above the quantification level ("QL") and the data represent the exact pollutant being evaluated.

Next, the appropriate Water Quality Standards (WQS) are determined for the pollutants in the effluent. Then, the Wasteload Allocations (WLAs) are calculated. In this case, since the critical 7Q10 and 1Q10 flows have been determined to be zero, the WLAs are equal to the WQS. The WLA values are then compared with available effluent data to determine the need for effluent limitations. Effluent limitations are needed if the 97th percentile of the daily effluent concentration values is greater than the acute wasteload allocation or if the 97th percentile of the four-day average effluent concentration values is greater than the chronic wasteload allocation. Effluent limitations are based on the most limiting WLA, the required sampling frequency and statistical characteristics of the effluent data.

a. Effluent Screening

Effluent data obtained from the permit application and the September 2011 to June 2015 Discharge Monitoring Reports (DMRs) for Outfall 001 has been reviewed and determined to be suitable for evaluation. There were no discharges associated with the stormwater retention pond (Outfall 002 and Outfall 902) during the previous permit term.

Please see **Attachment 8** for a summary of effluent data. There was one reported exceedance for total suspended solids in December 2011.

b. Effluent Limitations – Toxic Pollutants

9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an in-stream excursion of water quality criteria. Those parameters with WLAs that are near effluent concentrations are evaluated for limits.

The VPDES Permit Regulation at 9VAC25-31-230.D requires that monthly and weekly average limitations be imposed for continuous discharges from POTWs and monthly average and daily maximum limitations be imposed for all other continuous non-POTW discharges.

Total Residual Chlorine (TRC)

This facility produces potable water for distribution and consumption. Chlorine is utilized for disinfection; therefore, a potential exists for it to be present in the discharge. In accordance with the *General VPDES Permit for Potable Water Plants*, 9VAC25-860 et seq., it is staff's best professional judgement that the TRC limitations as set forth in the referenced General Permit be reflected within this permit. Said limitations are set to ensure protection of water quality at all times, regardless of the receiving stream critical flow characteristics. A monthly average and daily maximum limit of 0.011 mg/L are proposed for this reissuance; resulting in no changes to the current TRC limit.

c. Effluent Limitations and Monitoring – Conventional and Non-Conventional Pollutants

No changes to pH, total suspended solids (TSS) and total residual chlorine (TRC) limitations are proposed.

pH limitations are based on the water quality standards at 9VAC25-260-50.

The TSS and TRC limitations reflect the *General VPDES Permit for Potable Water Plants*, 9VAC25-860-70.A. TSS limitations were based on best professional judgement (9VAC25-31-210); achievable with conventional treatment technology while TRC limits were based on water quality standards.

d. Effluent Limitations and Monitoring Summary

The effluent limitations are presented in the Section 19 of this Fact Sheet. Limitations were established for pH, total suspended solids and total residual chlorine.

Sample Type and Frequency reflect those as set forth in the *General VPDES Permit for Potable Water Plants*, 9VAC25-860-70.A.

18. Antibacksliding:

All limits in this permit are at least as stringent as those previously established. Backsliding does not apply to this reissuance.

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19.a. Effluent Limitations/Monitoring Requirements for Outfall 001:

Maximum Flow at this Industrial Outfall is 1.0 MGD.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/3M	Estimate
pH	3,4	NA	NA	6.0 S.U.	9.0 S.U.	1/3M	Grab
Total Suspended Solids (TSS)*	3,4	30 mg/L	60 mg/L	NA	NA	1/3M	5G/8H-C
Total Residual Chlorine (TRC)	3,4	0.011 mg/L	0.011 mg/L	NA	NA	1/3M	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9VAC25-860-70
   General VPDES Permit for Potable Water Treatment Plants

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
1/3M = Once every calendar quarter.

5G/8H = 5 Grab/Eight Hour Composite - Consisting of five (5) grab samples collected at hourly intervals until the discharge ceases or five (5) grab samples taken at equal time intervals for the duration of the discharge if the discharge is less than 8 hours in length.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.

Grab = An individual sample collected over a period of time not to exceed 15-minutes.

The calendar quarter monitoring periods shall be January through March, April through June, July through September, and October through December. The DMR shall be submitted no later than the 10th day of the month following the monitoring period.

* TSS shall be expressed as two significant figures.

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19.b. Effluent Limitations/Monitoring Requirements for Outfall 002:

Comingled Flow at this Industrial Outfall is Variable.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/D-M	Estimate
pH	3,4	NA	NA	6.0 S.U.	9.0 S.U.	1/D-M	Grab
Total Suspended Solids (TSS)*	3,4	30 mg/L	60 mg/L	NA	NA	1/D-M	Grab
Total Residual Chlorine (TRC)	3,4	0.011 mg/L	0.011 mg/L	NA	NA	1/D-M	Grab

The basis for the limitations codes are:

1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards
4. 9VAC25-860-70
   General VPDES Permit for Potable Water Treatment Plants

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.

1/D-M = Once per month in which a discharge occurs.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

* TSS shall be expressed as two significant figures.

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19.c. Effluent Limitations/Monitoring Requirements for Outfall 902:

Maximum Flow at this Stormwater Outfall is rainfall dependent/variable.
Effective Dates: During the period beginning with the permit's effective date and lasting until the expiration date.

PARAMETER	BASIS FOR LIMITS	DISCHARGE LIMITATIONS				MONITORING REQUIREMENTS	
		Monthly Average	Daily Maximum	Minimum	Maximum	Frequency	Sample Type
Flow (MGD)	NA	NL	NA	NA	NL	1/Discharge	Estimate
pH	2	NA	NA	NL S.U.	NL S.U.	1/Discharge	Grab
Total Suspended Solids (TSS)*	2	NA	NA	NA	NL mg/L	1/Discharge	Grab
Total Residual Chlorine (TRC)	2	NA	NA	NA	NL mg/L	1/Discharge	Grab

The basis for the limitations codes are:
1. Federal Effluent Requirements
2. Best Professional Judgement
3. Water Quality Standards

MGD = Million gallons per day.
NA = Not applicable.
NL = No limit; monitor and report.
S.U. = Standard units.
1/Discharge = Once per discharge.

Estimate = Reported flow is to be based on the technical evaluation of the sources contributing to the discharge.
Grab = An individual sample collected over a period of time not to exceed 15-minutes.

*TSS shall be expressed as two significant figures.

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20. Other Permit Requirements:

Permit Section Part I.B. contains quantification levels and compliance reporting instructions

9VAC25-31-190.L.4.c. requires an arithmetic mean for measurement averaging and 9VAC25-31-220.D. requires limits be imposed where a discharge has a reasonable potential to cause or contribute to an instream excursion of water quality criteria. Specific analytical methodologies for toxics are listed in this permit section as well as quantification levels (QLs) necessary to demonstrate compliance with applicable permit limitations or for use in future evaluations to determine if the pollutant has reasonable potential to cause or contribute to a violation. Required averaging methodologies are also specified.

21. Other Special Conditions:

a. O&M Manual Requirement. Required by Code of Virginia §62.1-44.19; VPDES Permit Regulation, 9VAC25-31-190.E and 40 CFR 122.41(e). The permittee shall maintain a current Operations and Maintenance (O&M) Manual. The permittee shall operate the treatment works in accordance with the O&M Manual and shall make the O&M Manual available to Department personnel for review upon request. Any changes in the practices and procedures followed by the permittee shall be documented in the O&M Manual within 90 days of the effective date of the changes. Non-compliance with the O&M Manual shall be deemed a violation of the permit.

b. Notification Levels. Required by VPDES Permit Regulation, 9VAC25-31-200.A. for existing manufacturing, commercial, mining and silvicultural dischargers. The permittee shall report discharges of toxic pollutants not limited by this permit that exceed notification levels.

c. Materials Handling/Storage. 9VAC25-31-50.A. prohibits the discharge of any wastes into State waters unless authorized by permit. Code of Virginia §62.1-44.16 and §62.1-44.17 authorize the Board to regulate the discharge of industrial waste or other waste.

d. Water Quality Criteria Reopener. The VPDES Permit Regulation at 9VAC25-31-220.D. requires establishment of effluent limitations to ensure attainment/maintenance of receiving stream water quality criteria. Should effluent monitoring indicate the need for any water quality-based limitations, this permit may be modified or alternatively revoked and reissued to incorporate appropriate limitations.

e. Total Maximum Daily Load (TMDL) Reopener. Section 303(d) of the Clean Water Act requires that Total Maximum Daily Loads (TMDLs) be developed for streams listed as impaired. This special condition is to allow the permit to be reopened if necessary to bring it into compliance with any applicable TMDL approved for the receiving stream. The reopener recognizes that, according to Section 402(o)(1) of the Clean Water Act, limits and/or conditions may be either more or less stringent than those contained in this permit. Specifically, they can be relaxed if they are the result of a TMDL, basin plan or other wasteload allocation prepared under section 303 of the Act.

22. Permit Section Part II:

Required by VPDES Regulation 9VAC25-31-190, Part II of the permit contains standard conditions that appear in all VPDES Permits. In general, these standard conditions address the responsibilities of the permittee, reporting requirements, testing procedures and records retention.

23. Permit Section Part III:

Part III of the permit contains conditions and requirements for stormwater pollution prevention. The permittee will be required to review and modify, as warranted, to ensure that the current facility stormwater pollution prevention plan complies with the requirements as set forth.

The nutrient monitoring and reporting protocol for facilities located within the Chesapeake Bay watershed was not included for this facility. Based on available information, this facility does not have a point source discharge consisting of stormwater, as discussed earlier in this Fact Sheet. Sheet flow from a facility such as this does not afford proper stormwater sampling; thus, monitoring and reporting were not included. However, should it be determined that a discrete point source for stormwater does exist, allowing for stormwater monitoring, these requirements will be reinserted.

24. Changes to the Permit from the Previously Issued Permit:

a. Special Conditions:

- The Water Quality Monitoring, Attachment A, requirement at Outfall 002 was removed with this reissuance based on best professional judgement. A discharge occurring at this outfall is unlikely and a subsequent discharge thereafter is remote.

b. Monitoring and Effluent Limitations:

- The Whole Effluent Toxicity program requirements were removed with this reissuance. The monitoring results since September 2001 have indicated no toxicity issues at this facility (**Attachment 9**). This reflects the requirements found in 9VAC25-860 et seq.

c. Other:

- The Stormwater Conditions and Requirements are now found in Part III of this discharge permit. The updated language reflects that found in all stormwater permits associated with industrial activity as they are reissued.

25. Variances/Alternate Limits or Conditions:

Not Applicable.

26. Public Notice Information:

First Public Notice Date: 23 March 2016 Second Public Notice Date: 30 March 2016

Public Notice Information is required by 9VAC25-31-280.B. All pertinent information is on file and may be inspected and copied by contacting the: DEQ Northern Regional Office; 13901 Crown Court; Woodbridge, VA 22193; Telephone No. 703-583-3873, Douglas.Frasier@deq.virginia.gov. See **Attachment 10** for a copy of the public notice document.

Persons may comment in writing or by email to the DEQ on the proposed permit action and may request a public hearing, during the comment period. Comments shall include the name, address and telephone number of the writer and of all persons represented by the commenter/requester, and shall contain a complete, concise statement of the factual basis for comments. Only those comments received within this period will be considered. The DEQ may decide to hold a public hearing, including another comment period, if public response is significant and there are substantial, disputed issues relevant to the permit. Requests for public hearings shall state 1) the reason why a hearing is requested; 2) a brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit; and 3) specific references, where possible, to terms and conditions of the permit with suggested revisions. Following the comment period, the Board will make a determination regarding the proposed permit action. This determination will become effective, unless the DEQ grants a public hearing. Due notice of any public hearing will be given. The public may request an electronic copy of the draft permit and fact sheet or review the draft permit and application at the DEQ Northern Regional Office by appointment.

(Remainder of page intentionally left blank)

27. Additional Comments:

Previous Board Action(s):	Not Applicable.
Staff Comments:	No comments.
State/Federal Agency Comments:	Virginia Department of Health had no comments or objections to this reissuance. The U.S. Fish & Wildlife Service noted that two species of mussel (yellow lance and brook floater) are currently being reviewed for listing under the federal Endangered Species Act as Broad Run is known to support these species. However, agency staff had no objections to this reissuance provided the permittee adheres to the proposed permit limitations. Virginia Department of Conservation and Recreation also noted the above mussel species and recommended that utilization of new technologies, as they become available, be explored to improve water quality. No comments were received from the Virginia Department of Game and Inland Fisheries. All comments are located within the reissuance file.
Public Comments:	No comments were received during the public notice.
Owner Comments:	No comments.

Fact Sheet Attachments

Table of Contents

City of Manassas Water Treatment Plant
VA0050181
2016 Issuance

ATTACHMENT 1

Flow Frequency Determination

MEMORANDUM

DEPARTMENT OF ENVIRONMENTAL QUALITY
Office of Water Quality Assessments
629 East Main Street P.O. Box 10009 Richmond, Virginia 23219

SUBJECT: Flow Frequency Determination
Manassas WTP – #VA0050181

TO: Cathy K. Malast, NRO

FROM: Paul E. Herman, P.E., WQAP Paul

DATE: April 26, 2000

COPIES: Ron Gregory, Charles Martin, File

This memo supersedes my April 20, 1995, memo to April Young concerning the subject VPDES permit.

The Manassas WTP discharges to the Broad Run near Gainesville, VA. Stream flow frequencies are required at this site for use by the permit writer in developing effluent limitations for the VPDES permit.

The VDEQ operated a continuous record gage on Broad Run at Buckland, VA (#01656500) from 1951 to 1986. The gage was located approximately 3.0 miles upstream of the discharge point at the U.S. Route 29 bridge in Prince William County. The flow frequencies for the gage and the discharge point are presented below. The values at the discharge point were determined by drainage area proportions and have been reduced by the volume of the Manassas WTP withdrawal from Lake Manassas. Adjustments have not been made for any minimum release requirements from the dam or for other upstream discharges, withdrawals, or springs.

Broad Run at Buckland, VA (#01656500):

Drainage Area = 50.5 mi^2

1Q10 = 0.68 cfs	High Flow 1Q10 = 5.0 cfs
7Q10 = 0.87 cfs	High Flow 7Q10 = 7.1 cfs
30Q5 = 2.1 cfs	HM = 9.4 cfs

The high flow months are December through April. The maximum withdrawal by the Manassas WTP from Lake Manassas during the high flow period occurred during April 1997, and equaled 225.553 million gallons (11.63 cfs). The maximum withdrawal during the low flow period occurred during August 1998, and equaled 312.356 million gallons (15.59 cfs). The flow frequencies for Broad Run at the Manassas WTP discharge point have been reduced by these withdrawal volumes.

Broad Run at Manassas WTP discharge point:

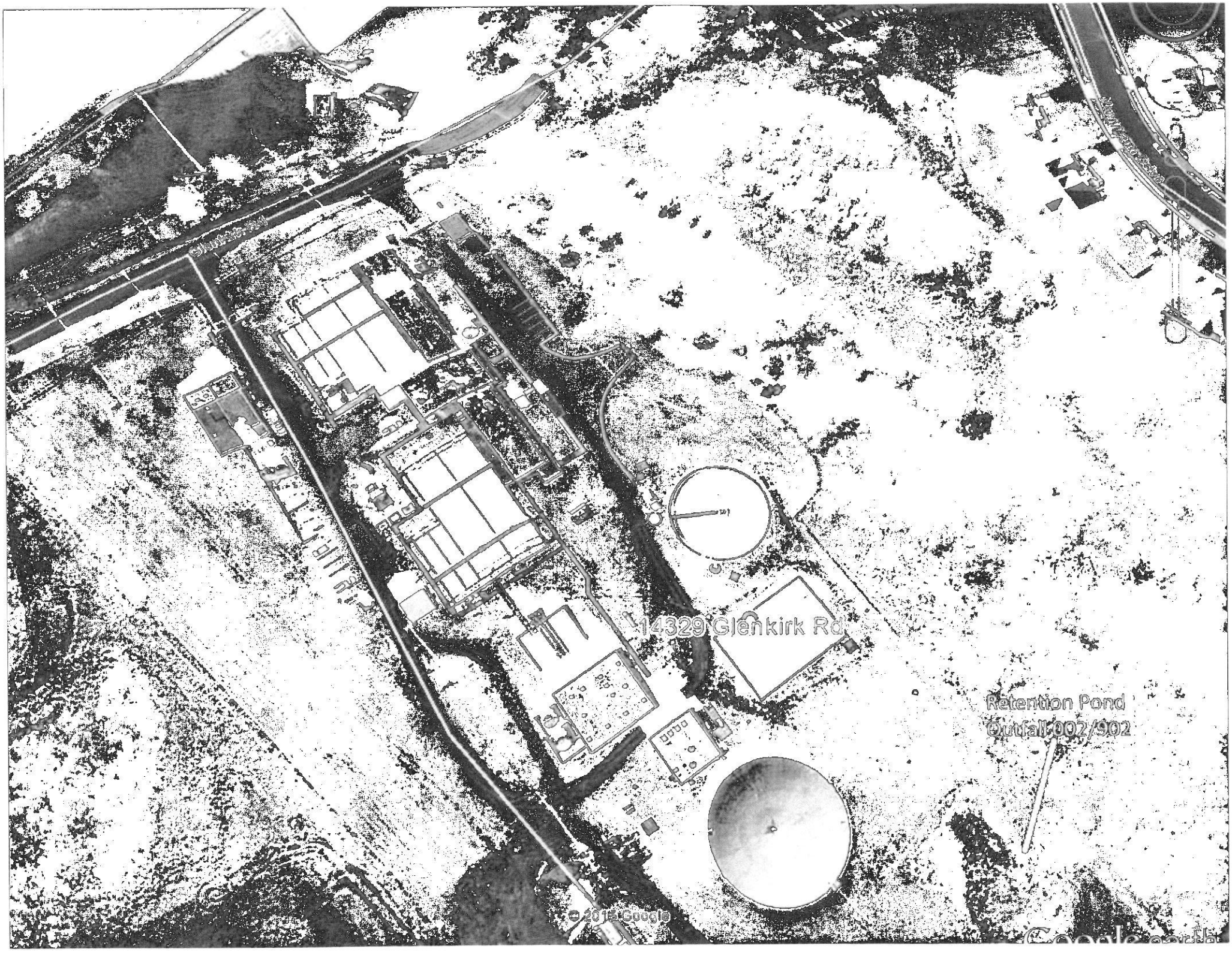
Drainage Area = 60 mi^2

1Q10 =	0.81 cfs – 15.59 cfs	= 0.0 cfs
7Q10 =	1.0 cfs – 15.59 cfs	= 0.0 cfs
30Q5 =	2.5 cfs – 15.59 cfs	= 0.0 cfs
High Flow 1Q10 =	5.9 cfs – 11.63 cfs	= 0.0 cfs
High Flow 7Q10 =	8.4 cfs – 11.63 cfs	= 0.0 cfs
HM =	11.2 cfs – 15.59 cfs	= 0.0 cfs

If you have any questions concerning this analysis, please let me know.

ATTACHMENT 2

Aerial View


14329 Glenkirk Rd
Retention Pond
Outfall 002/902
© 2015 Google

ATTACHMENT 3

NPDES Permit Rating Worksheet

VA0050181

NPDES PERMIT RATING WORK SHEET

[ ] Regular Addition
[ ] Discretionary Addition
[X] Score change, but no status Change
[ ] Deletion

VPDES NO. : VA0050181

Facility Name: City of Manassas Water Treatment Plant
City / County: Nokesville / Prince William County
Receiving Water: Broad Run
Waterbody ID: VAN-A19R

Is this facility a steam electric power plant (sic =4911) with one or more of the following characteristics?

1. Power output 500 MW or greater (not using a cooling pond/lake)
2. A nuclear power Plant
3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rater

[ ] Yes; score is 600 (stop here) [X] NO; (continue)

Is this permit for a municipal separate storm sewer serving a population greater than 100,000?

[ ] YES; score is 700 (stop here)
[X] NO; (continue)

FACTOR 1: Toxic Pollutant Potential

PCS SIC Code: _____ Primary Sic Code: 4941 Other Sic Codes: _____ _____ _____

Industrial Subcategory Code: 000 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
[ ] No process waste streams	0	0	[ ] 3.	3	15	[X] 7.	7	35
[ ] 1.	1	5	[ ] 4.	4	20	[ ] 8.	8	40
[ ] 2.	2	10	[ ] 5.	5	25	[ ] 9.	9	45
			[ ] 6.	6	30	[ ] 10.	10	50

Code Number Checked: 7

Total Points Factor 1: 35

FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A – Wastewater Flow Only considered

Wastewater Type (see Instructions)			Code	Points
Type I:	Flow < 5 MGD	[ ]	11	0
	Flow 5 to 10 MGD	[ ]	12	10
	Flow > 10 to 50 MGD	[ ]	13	20
	Flow > 50 MGD	[ ]	14	30
Type II:	Flow < 1 MGD	[X]	21	10
	Flow 1 to 5 MGD	[ ]	22	20
	Flow > 5 to 10 MGD	[ ]	23	30
	Flow > 10 MGD	[ ]	24	50
Type III:	Flow < 1 MGD	[ ]	31	0
	Flow 1 to 5 MGD	[ ]	32	10
	Flow > 5 to 10 MGD	[ ]	33	20
	Flow > 10 MGD	[ ]	34	30

Section B – Wastewater and Stream Flow Considered

Wastewater Type (see Instructions)	Percent of Instream Wastewater Concentration at Receiving Stream Low Flow		Code	Points
Type I/III:	< 10 %	[ ]	41	0
	10 % to < 50 %	[ ]	42	10
	> 50%	[ ]	43	20
Type II:	< 10 %	[ ]	51	0
	10 % to < 50 %	[ ]	52	20
	> 50 %	[ ]	53	30

Code Checked from Section A or B: 21

Total Points Factor 2: 10

NPDES PERMIT RATING WORK SHEET

FACTOR 3: Conventional Pollutants

(only when limited by the permit)

A. Oxygen Demanding Pollutants: (check one) ☐ BOD ☐ COD ☐ Other: _____

Permit Limits: (check one)	Code	Points
☐ < 100 lbs/day	1	0
☐ 100 to 1000 lbs/day	2	5
☐ > 1000 to 3000 lbs/day	3	15
☐ > 3000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

B. Total Suspended Solids (TSS)

Permit Limits: (check one)	Code	Points
☒ < 100 lbs/day	1	0
☐ 100 to 1000 lbs/day	2	5
☐ > 1000 to 5000 lbs/day	3	15
☐ > 5000 lbs/day	4	20

Code Number Checked: 1

Points Scored: 0

C. Nitrogen Pollutants: (check one) ☐ Ammonia ☐ Other: _____

Permit Limits: (check one)	*Nitrogen Equivalent*	Code	Points
☐	< 300 lbs/day	1	0
☐	300 to 1000 lbs/day	2	5
☐	> 1000 to 3000 lbs/day	3	15
☐	> 3000 lbs/day	4	20

Code Number Checked: NA

Points Scored: 0

Total Points Factor 3: 0

FACTOR 4: Public Health Impact

Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this include any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above reference supply.

☒ YES; (If yes, check toxicity potential number below)

☐ NO; (If no, go to Factor 5)

Determine the *Human Health* potential from Appendix A. Use the same SIC doe and subcategory reference as in Factor 1. (Be sure to use the *Human Health* toxicity group column – check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
☐ No process waste streams	0	0	☐ 3.	3	0	☒ 7.	7	15
☐ 1.	1	0	☐ 4.	4	0	☐ 8.	8	20
☐ 2.	2	0	☐ 5.	5	5	☐ 9.	9	25
			☐ 6.	6	10	☐ 10.	10	30

Code Number Checked: 7

Total Points Factor 4: 15

VA0050181

NPDES PERMIT RATING WORK SHEET

FACTOR 5: Water Quality Factors

A. *Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-base federal effluent guidelines, or technology-base state effluent guidelines), or has a wasteload allocation been assigned to the discharge?*

		Code	Points
[X]	YES	1	10
[ ]	NO	2	0

B. *Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?*

		Code	Points
[X]	YES	1	0
[ ]	NO	2	5

C. *Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?*

		Code	Points
[ ]	YES	1	10
[X]	NO	2	0

Code Number Checked: A 1 B 1 C 2

Points Factor 5: A 10 + B 0 + C 0 = **10**

FACTOR 6: Proximity to Near Coastal Waters

A. Base Score: Enter flow code here (from factor 2) 21

Check appropriate facility HPRI code (from PCS):

	HPRI#	Code	HPRI Score
[ ]	1	1	20
[ ]	2	2	0
[ ]	3	3	30
[X]	4	4	0
[ ]	5	5	20

Enter the multiplication factor that corresponds to the flow code: 0.10

Flow Code	Multiplication Factor
11, 31, or 41	0.00
12, 32, or 42	0.05
13, 33, or 43	0.10
14 or 34	0.15
21 or 51	0.10
22 or 52	0.30
23 or 53	0.60
24	1.00

HPRI code checked : 4

Base Score (HPRI Score): 0 X (Multiplication Factor) 0.10 = 0

B. Additional Points – NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
[ ]	1	10
[X]	2	0

C. Additional Points – Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 area's of concern (see instructions)?

	Code	Points
[ ]	1	10
[X]	2	0

Code Number Checked: A 4 B 2 C 2

Points Factor 6: A 0 + B 0 + C 0 = **0**

VA0050181

NPDES PERMIT RATING WORK SHEET

SCORE SUMMARY

Factor	Description	Total Points
1	Toxic Pollutant Potential	35
2	Flows / Streamflow Volume	10
3	Conventional Pollutants	0
4	Public Health Impacts	15
5	Water Quality Factors	10
6	Proximity to Near Coastal Waters	0
	TOTAL (Factors 1 through 6)	70

S1. Is the total score equal to or grater than 80 ☐ YES; (Facility is a Major) ☒ NO

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

☒ NO

☐ YES; (Add 500 points to the above score and provide reason below:

Reason: _____

NEW SCORE : 70

OLD SCORE : 60

Permit Reviewer's Name: Douglas Frasier

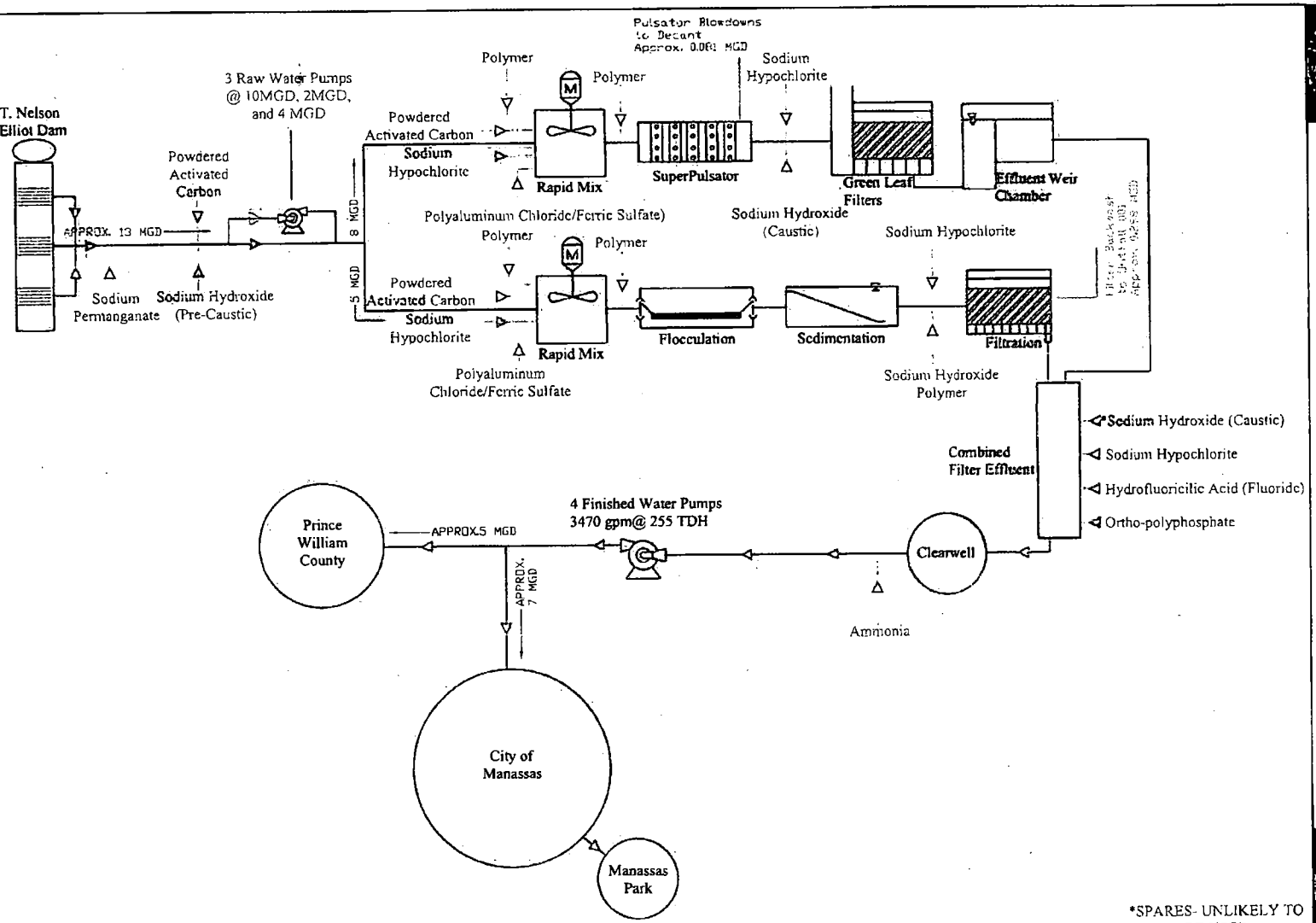
Phone Number: 703-583-3873

Date: 31 December 2015

ATTACHMENT 4

Facility Schematic/Diagram

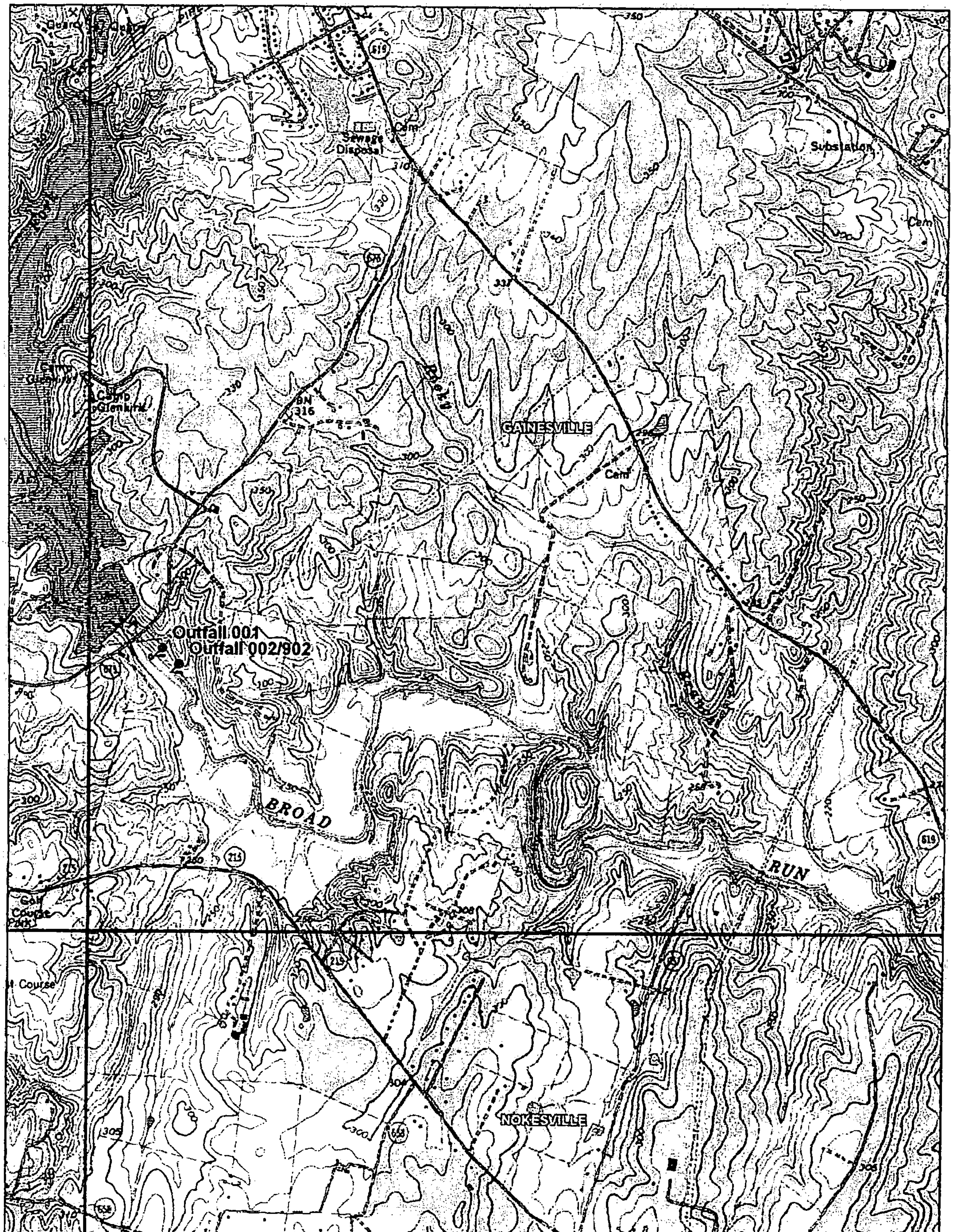
Water Treatment Plant Process Schematic



September 2010, Sung Jin Chung

ATTACHMENT 5

Topographic Map



DELORME

Scale 1 : 25,000
1" = 2080 ft

ATTACHMENT 6

2009 Inspection Report Summary

TECHNICAL INSPECTION SUMMARY

Comments/Recommendations for action from current inspection on June 23, 2009:

- **The personnel should be commended for operating a facility that is clean, and well maintained.**
- **Areas of concern were addressed at the time of inspection and there are no recommendations at this time.**

ATTACHMENT 7

Planning Statement

To:	Douglas Frasier
From:	Rebecca Shoemaker
Date:	12 November 2015
Subject:	Planning Statement for City of Manassas Water Treatment Plant
Permit Number:	VA0050181

Information for Outfall 001:

Discharge Type:	industrial, minor
Discharge Flow:	0.349 MGD 30-day average flow @ Outfall 001
Receiving Stream:	Broad Run
Latitude / Longitude:	38° 45' 44" / 77° 37' 16" - Outfall 001 38° 45' 42" / 77° 37' 13" - Outfall 002/902 (stormwater pond – no discharge)
Rivermile:	16.0
Streamcode:	1aBRU
Waterbody:	VAN-A19R
Water Quality Standards:	*Class III, Section 7a, special stds. g*
Drainage Area:	60 square miles

1. Please provide water quality monitoring information for the receiving stream segment. If there is not monitoring information for the receiving stream segment, please provide information on the nearest downstream monitoring station, including how far downstream the monitoring station is from the outfall.

   This facility discharges to a segment of Broad Run that was not assessed for the Draft 2014 Integrated Report. An assessed segment of Broad Run is located approximately four miles downstream from Outfall 001 and DEQ ambient water quality monitoring station 1aBRU011.48 is located at Sudley Manor Road, approximately 4.3 miles downstream from Outfall 001. The following is the water quality summary for this segment of Broad Run, as taken from the Draft 2014 Integrated Report:

   Class III, Section 7a, special stds. g

   DEQ monitoring stations located in this segment of Broad Run:
   - *Ambient monitoring station 1aBRU011.48, at Sudley Manor Road*

   E. coli monitoring finds a bacteria impairment, resulting in an impaired classification for the recreation use. A bacteria TMDL for the Broad Run watershed has been completed and approved. The aquatic life and wildlife uses are considered fully supporting. The fish consumption use was not assessed.

2. Does this facility discharge to a stream segment on the 303(d) list? If yes, please fill out Table A.

   No.

3. Are there any downstream 303(d) listed impairments within 15 miles of this facility that are relevant to this discharge? If yes, please fill out Table B.

   Yes.

Table B. Information on Downstream 303(d) Impairments and TMDLs

Waterbody Name	Impaired Use	Cause	Distance From Outfall	TMDL completed	WLA	Basis for WLA	TMDL Schedule
Impairment Information in the DRAFT 2014 Integrated Report							
Broad Run	Recreation	*E. coli*	4 miles	Occoquan River Watershed Bacteria TMDL 11/15/2006	None (not expected to discharge pollutant)	---	---

4. Is there monitoring or other conditions that Planning/Assessment needs in the permit?

   There is a completed downstream TMDL for the aquatic life use impairment for the Chesapeake Bay. However, the Bay TMDL and the WLAs contained within the TMDL are not addressed in this planning statement.

5. Fact Sheet Requirements – Please provide information regarding any drinking water intakes located within a 5 mile radius of the discharge point.

   There is one drinking water intake for the City of Manassas located within a five mile radius of Outfall 001.

ATTACHMENT 8

September 2011 – June 2015 Effluent Data

DMR QA/QC

Permit #:VA0050181

Facility:Manassas City Water Treatment Plant

Due	Outfall	No Discharge?	Parameter Description	QTY AVG	Lim Avg	QTY MAX	Lim Max	CONC MIN	Lim Min	CONC AVG	Lim Avg	CONC MAX	Lim Max
10-Oct-2011	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Jan-2012	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Apr-2012	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Jul-2012	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Oct-2012	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Jan-2013	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Apr-2013	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Jul-2013	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	.0003	*0.011*	.010	*0.011*
10-Oct-2013	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Jan-2014	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Apr-2014	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	0	*0.011*	0	*0.011*
10-Jul-2014	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	0.001	*0.011*	0.01	*0.011*
10-Oct-2014	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	.010	*0.011*
10-Jan-2015	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	.0034	*0.011*	.020	*0.011*
10-Apr-2015	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	<QL	*0.011*	<QL	*0.011*
10-Jul-2015	001	N	CL2, INST RES MAX	NULL	*********	NULL	*********	NULL	*********	0.00006	*0.011*	0.01	*0.011*
10-Oct-2011	001	N	FLOW	0.338	*NL*	0.786	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jan-2012	001	N	FLOW	0.352	*NL*	0.546	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Apr-2012	001	N	FLOW	0.417	*NL*	0.646	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jul-2012	001	N	FLOW	0.581	*NL*	1.308	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Oct-2012	001	N	FLOW	0.331	*NL*	0.608	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jan-2013	001	N	FLOW	0.350	*NL*	0.496	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Apr-2013	001	N	FLOW	366	*NL*	596	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jul-2013	001	N	FLOW	410	*NL*	696	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Oct-2013	001	N	FLOW	425	*NL*	746	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jan-2014	001	N	FLOW	.370	*NL*	.823	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Apr-2014	001	N	FLOW	382	*NL*	646	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jul-2014	001	N	FLOW	.356	*NL*	.944	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Oct-2014	001	N	FLOW	342	*NL*	544	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jan-2015	001	N	FLOW	.397	*NL*	.894	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Apr-2015	001	N	FLOW	194	*NL*	1144	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Jul-2015	001	N	FLOW	554	*NL*	644	*NL*	NULL	*********	NULL	*********	NULL	*********
10-Oct-2011	001	N	pH	NULL	*********	NULL	*********	6.47	*6.0*	NULL	*********	7.08	*9.0*
10-Jan-2012	001	N	pH	NULL	*********	NULL	*********	6.21	*6.0*	NULL	*********	7.32	*9.0*
10-Apr-2012	001	N	pH	NULL	*********	NULL	*********	6.35	*6.0*	NULL	*********	7.16	*9.0*
10-Jul-2012	001	N	pH	NULL	*********	NULL	*********	6.44	*6.0*	NULL	*********	6.82	*9.0*
10-Oct-2012	001	N	pH	NULL	*********	NULL	*********	6.49	*6.0*	NULL	*********	7.05	*9.0*

10-Jan-2013	001	N	pH	NULL	*********	NULL	*********	6.56	*6.0*	NULL	*********	6.99	*9.0*
10-Apr-2013	001	N	pH	NULL	*********	NULL	*********	6.42	*6.0*	NULL	*********	6.93	*9.0*
10-Jul-2013	001	N	pH	NULL	*********	NULL	*********	6.51	*6.0*	NULL	*********	6.95	*9.0*
10-Oct-2013	001	N	pH	NULL	*********	NULL	*********	6.51	*6.0*	NULL	*********	6.97	*9.0*
10-Jan-2014	001	N	pH	NULL	*********	NULL	*********	6.56	*6.0*	NULL	*********	6.99	*9.0*
10-Apr-2014	001	N	pH	NULL	*********	NULL	*********	6.39	*6.0*	NULL	*********	7.21	*9.0*
10-Jul-2014	001	N	pH	NULL	*********	NULL	*********	6.52	*6.0*	NULL	*********	6.88	*9.0*
10-Oct-2014	001	N	pH	NULL	*********	NULL	*********	6.52	*6.0*	NULL	*********	6.91	*9.0*
10-Jan-2015	001	N	pH	NULL	*********	NULL	*********	6.54	*6.0*	NULL	*********	6.95	*9.0*
10-Apr-2015	001	N	pH	NULL	*********	NULL	*********	6.55	*6.0*	NULL	*********	7.02	*9.0*
10-Jul-2015	001	N	pH	NULL	*********	NULL	*********	6.13	*6.0*	NULL	*********	6.92	*9.0*
10-Oct-2011	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	1.0	*30*	1.0	*60*
10-Jan-2012	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	33.5	*30*	64.0	*60*
10-Apr-2012	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	7.0	*30*	7.0	*60*
10-Jul-2012	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	4	*30*	4	*60*
10-Oct-2012	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	2	*30*	2	*60*
10-Jan-2013	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	10	*30*	10	*60*
10-Apr-2013	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	10	*30*	10	*60*
10-Jul-2013	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	10	*30*	10	*60*
10-Oct-2013	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	1	*30*	1	*60*
10-Jan-2014	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	1	*30*	1	*60*
10-Apr-2014	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	5	*30*	5	*60*
10-Jul-2014	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	1.0	*30*	1.0	*60*
10-Oct-2014	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	2	*30*	2	*60*
10-Jan-2015	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	2	*30*	2	*60*
10-Apr-2015	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	16	*30*	16	*60*
10-Jul-2015	001	N	TSS	NULL	*********	NULL	*********	NULL	*********	10	*30*	10	*60*

ATTACHMENT 9

Whole Effluent Toxicity Test Result Summaries

BIOMONITORING RESULTS
City of Manassas Water Treatment Plant (VA0050181)

Table 1
Summary of Toxicity Test Results for Outfall 001

TEST DATE	TEST TYPE/ORGANISM	48-H LC50 (%)	NOAEC (%)	TU_A	% SURV	LAB	REMARKS
09/19/01	Acute *C. dubia*	>100	100	1.0	100	CBI	1st quarterly
09/19/01	Acute *P. promelas*	>100	100	1.0	100	CBI	
01/17/02	Acute *C. dubia*	>100	100	1.0	100	CBI	2nd quarterly
01/17/02	Acute *C. dubia*	>100	100	1.0	100	CBI	
03/15/02	Acute *C. dubia*	>100	100	1.0	100	CBI	3rd quarterly
03/15/02	Acute *P. promelas*	>100	100	1.0	95	CBI	
07/18/02	Acute *C. dubia*	>100	100	1.0	100	CBI	4th quarterly
07/18/02	Acute *P. promelas*	>100	100	1.0	95	CBI	
10/30/02	Acute *C. dubia*	>100	100	1.0	85	CBI	5th quarterly
10/30/02	Acute *P. promelas*	>100	100	1.0	95	CBI	
01/30/03	Acute *C. dubia*	>100	100	1.0	100	CBI	6th quarterly
01/30/03	Acute *P. promelas*	>100	100	1.0	100	CBI	
03/21/03	Acute *C. dubia*	>100	100	1.0	100	CBI	7th quarterly
03/21/03	Acute *P. promelas*	>100	100	1.0	100	CBI	
06/27/03	Acute *C. dubia*	>100	100	1.0	100	CBI	8th quarterly
06/27/03	Acute *P. promelas*	>100	100	1.0	100	CBI	
01/30/04	Acute *C. dubia*	>100	100	1.0	100	CBI	1st annual
01/30/04	Acute *P. promelas*	>100	100	1.0	100	CBI	
01/28/05	Acute *C. dubia*	>100	100	1.0	100	CBI	2nd annual
01/28/05	Acute *P. promelas*	>100	100	1.0	100	CBI	
Permit reissued 7 April 2006							
03/23/07	Acute *C. dubia*	>100	100	1		JRA	1st annual
03/23/07	Acute *P. promelas*	>100	100	1		JRA	
04/01/08	Acute *C. dubia*	>100	100	1		JRA	2nd annual
04/01/08	Acute *P. promelas*	>100	100	1		JRA	
01/22/09	Acute *C. dubia*	>100	100	1		JRA	3rd annual
01/22/09	Acute *P. promelas*	>100	100	1		JRA	
03/04/10	Acute *C. dubia*	>100	100	1	95	JRA	4th annual
03/04/10	Acute *P. promelas*	>100	100	1	100	JRA	
Permit reissued 7 April 2011							
09/06/12	Acute *C. dubia*	>100	100	1	100	JRA	1st annual
09/06/12	Acute *P. promelas*	>100	100	1	100		
09/24/13	Acute *C. dubia*	>100	100	1	100	JRA	2nd annual
09/24/13	Acute *P. promelas*	>100	100	1	100		
09/04/14	Acute *C. dubia*	>100	100	1	100	JRA	3rd annual
09/04/14	Acute *P. promelas*	>100	100	1	100		
10/20/15	Acute *C. dubia*	>100	100	1	85	JRA	4th annual
10/20/15	Acute *P. promelas*	>100	100	1	100		

FOOTNOTES:

A **bold** faced value for LC_{50} or NOEC indicates that the test failed the criteria.

ABBREVIATIONS:

S – Survival; R – Reproduction; G – Growth
% SURV – Percent survival in 100% effluent
NOAEC – No observed adverse effect concentration for acute tests
NOEC – No observed effect concentration for chronic tests
CBI – Coastal Bioanalysts, Incorporated
JRA – James Reed & Associates

ATTACHMENT 10

Public Notice

Public Notice – Environmental Permit

PURPOSE OF NOTICE: To seek public comment on a draft permit from the Department of Environmental Quality that will allow the release of treated industrial wastewater and stormwater into a water body in Prince William County, Virginia.

PUBLIC COMMENT PERIOD: March 24, 2016 to April 25, 2016

PERMIT NAME: Virginia Pollutant Discharge Elimination System Permit – Wastewater and Stormwater issued by DEQ, under the authority of the State Water Control Board.

APPLICANT NAME, ADDRESS AND PERMIT NUMBER: City of Manassas
8500 Public Works Drive, Manassas. VA 20110
VA0050181

NAME AND ADDRESS OF FACILITY: City of Manassas Water Treatment Plant
14329 Glenkirk Road, VA 20181

PROJECT DESCRIPTION: The City of Manassas has applied for a reissuance of a permit for the public City of Manassas Water Treatment Plant. The applicant proposes to release treated industrial wastewaters at a maximum rate of 1.0 million gallons per day and stormwater at a variable rate into a water body. Generated solids from the treatment process will be transported to the Upper Occoquan Sewage Authority (VA0024988) for treatment and final disposal. The facility proposes to release the treated industrial wastewater and stormwater into Broad Run in Prince William County in the Potomac River watershed. A watershed is the land area drained by a river and its incoming streams. The permit will limit the following pollutants to amounts that protect water quality: pH, total suspended solids and total residual chlorine.

HOW TO COMMENT AND/OR REQUEST A PUBLIC HEARING: DEQ accepts comments and requests for public hearing by hand-delivery, email or postal mail. All comments and requests must be in writing and be received by DEQ during the comment period. Submittals must include the names, mailing addresses and telephone numbers of the commenter/requester and of all persons represented by the commenter/requester. A request for public hearing must also include: 1) The reason why a public hearing is requested. 2) A brief, informal statement regarding the nature and extent of the interest of the requester or of those represented by the requester, including how and to what extent such interest would be directly and adversely affected by the permit. 3) Specific references, where possible, to terms and conditions of the permit with suggested revisions. A public hearing may be held, including another comment period, if public response is significant, based on individual requests for a public hearing, and there are substantial, disputed issues relevant to the permit.

CONTACT FOR PUBLIC COMMENTS, DOCUMENT REQUESTS AND ADDITIONAL INFORMATION: The public may review the draft permit and application at the DEQ-Northern Regional Office by appointment, or may request electronic copies of the draft permit and fact sheet.

Name: Douglas Frasier
Address: DEQ-Northern Regional Office, 13901 Crown Court, Woodbridge, VA 22193
Phone: 703-583-3873 Email: Douglas.Frasier@deq.virginia.gov